

Avtron Encoders

for Reliable Wind Power



Durability

Safety

Reliability

Surge & Wiring Protection

Remote Diagnostics

Technology

OEM Flexibility

Worldwide Support

Investment Protection

Wind powered turbines are a great way to generate “green” energy, but they are only profitable when they are ready and online 24 hours a day, 365 days a year for many years. Customers can’t afford to have multi-million dollar investments sitting idle due to encoder failures.

Durability

Therefore, encoders used for wind turbine applications must be extremely durable. Wind towers routinely see temperature swings of up to 70°C each day. Condensing moisture is common, and dust buildup is inevitable. It comes as no surprise that most encoders cannot withstand this very harsh environment.

Safety

Encoders used in wind towers such as blade pitch models are mission-critical. If an encoder failure occurs during heavy winds, and the blade(s) do not rotate to a fail-safe position, the tower can be destroyed!

Reliability

Avtron’s magnetic encoder technology enables Avtron to design encoders to fit all applications, while offering extremely reliable performance. To date, Avtron has a real-world field-installed MTBF of 4,500,000 hours over our entire fleet of encoders installed in wind turbine applications. Our most popular models are modular encoders, with two-piece construction: The spinning rotor is detected by the stationary sensor. This non-contact system requires no bearings, seals or couplings. Combined with robust potting and packaging of the sensors, this ensures decades of trouble-free operation.

Surge & Wiring Protection

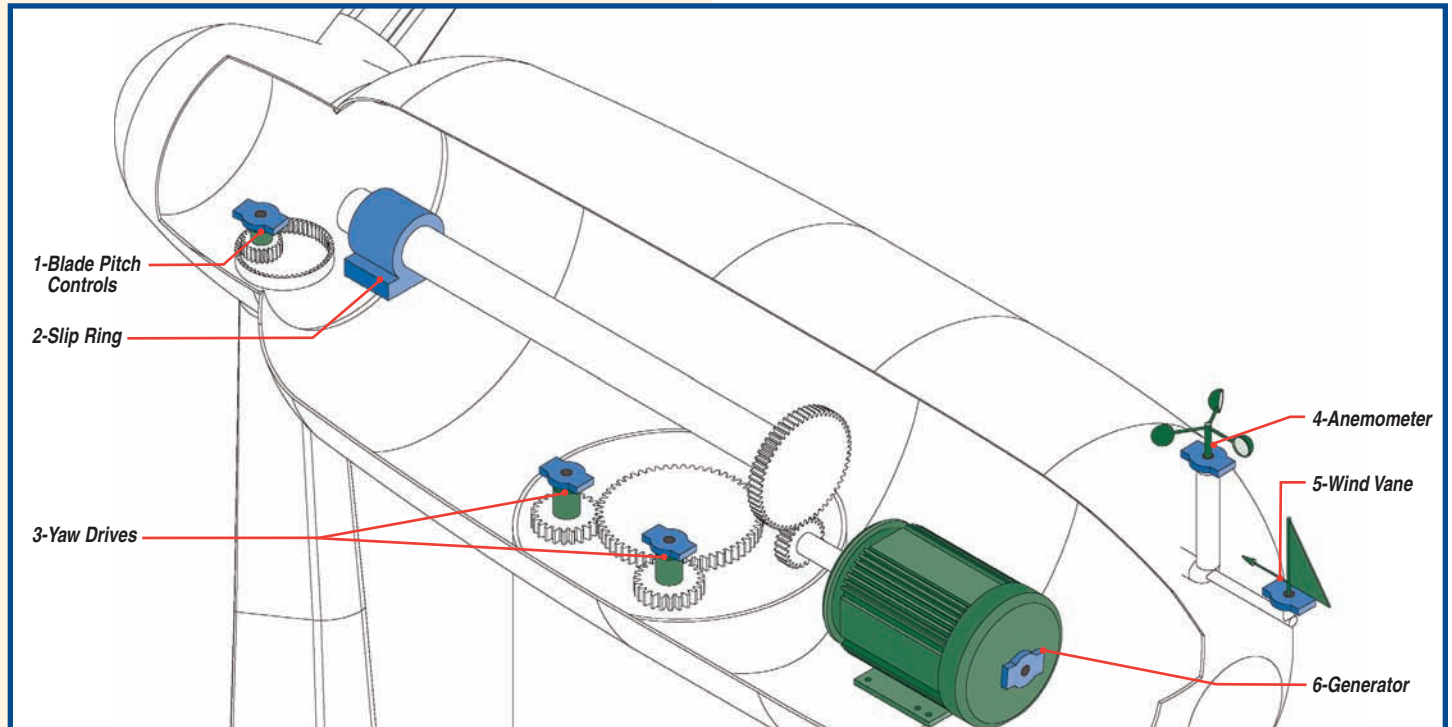
Lightning strikes on towers are routine and wiring errors not uncommon. Avtron adds additional protection to our encoder power and output circuits to withstand overvoltages caused by lightning, short circuits, and power mistakenly applied directly to output terminals.

Remote Diagnostics

Before technicians climb the tower, they need to know what to fix. Avtron encoders offer optional diagnostics which not only fully diagnose encoders, but can also troubleshoot encoder wiring, detect vibration, and inform of any pending problems before a turbine shutdown is triggered.

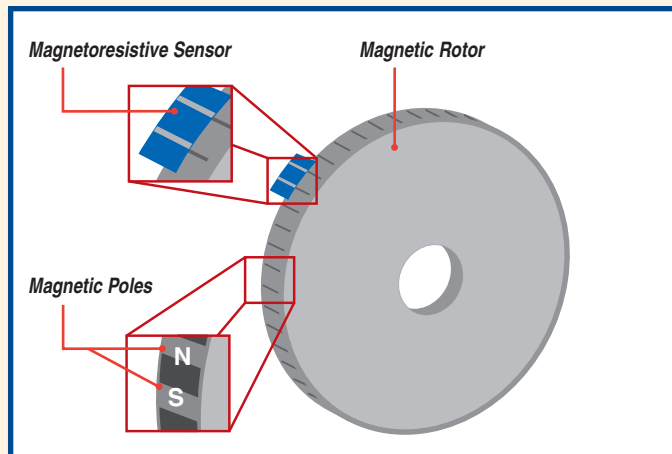
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OUTLINE DRAWING



Check out our web site for more detailed specifications, drawings, and installation instructions. www.avtronencoders.com

WIDE-GAP TECHNOLOGY



Technology

The key to Avtron's success is our Wide-Gap magnetic sensing technology. Standard encoders use optical sensing systems, which are fragile, and are damaged by contamination. Avtron's magnetic systems "see through" dust, dirt, water, oil, and grease; the wide sensor-to-rotor gap ensures the spinning rotor never meets the stationary sensor.

OEM Flexibility

Avtron manufactures a full range of extremely durable encoders suitable for wind turbine applications including:

- 1.) Blade Pitch Controls
- 2.) Slip Rings
- 3.) Yaw Drives
- 4.) Anemometers
- 5.) Wind Vanes
- 6.) Generators

In addition to standard models, Avtron also offers OEM custom designs, including magnetic encoders that can be imbedded within motors, brakes, slip rings, and other wind turbine components. We create special housings to fit virtually any application and any shaft size. This maximizes OEM flexibility in locating the encoder wherever it is most convenient.

Worldwide Support

Avtron offers worldwide OEM and user support, including 24x7x365 ability to build encoders to meet emergencies, and an on-call engineering service team.

Investment Protection

Users and OEMs alike specify Avtron encoders for wind turbine applications and OEM subsystems, ensuring maximum uptime.



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Specifications and features are subject to change without notice